

A new platform that uses the power of the internet to connect producers with information on water resources and movement has been created by scientists in Chile.

Its most valuable asset is its democratizing power and commitment to water as a public resource - to be sustained collectively by communities.

New technology will allow the fruit and vegetable industry to better distribute its water resources and anticipate potential shortages - making the risk of drought much less daunting for growers.

The project - that focuses on concentrating information on water resources and modeling patterns in the Aconcagua basin of the Andes mountains - was created by UC Davis Chile's Alejandra Acuña.

She spoke with FreshFruitPortal.com about how the platform processes data in real-time to track both above ground and subterranean water systems.

To make sure that water is being distributed efficiently, "basically what the platforms seeks to do is to find key data about hydro-systems and how they operate throughout the year," explained Acuña.

Then, from harvesting this information from the movement of water in the basin over time, researchers can begin to see patterns and better understand how water flows over time.

From this data which integrates complex information about water resources below and above the ground, the technology's goal is to "make decisions that would limit certain flows in certain areas of the basin to make the best use of the resources for crops," she said.

She went on to speak about the value of this sort of system for entire producing regions, saying that by creating a consensus of information about water supply in one area, it's possible to see how the water available might shift in the future.

This, Acuña detailed, will "make the process less uncertain" - taking some of the guesswork out of water supplies for farmers and entire communities.

Making key information available to all

What makes this platform different and arguably more democratic than others is its commitment to providing information on water flows to the entire community.

This community-based approach is critical to making data available to all of the Aconcagua basin's key workers and industry actors.

While agriculture in the region will undoubtedly benefit from this new system, the general public who consumes the water and individual businesses that utilize the basin's water supply will also gain access to the platform's key insight.

"The central idea is that everyone knows that this data exists and that this allows a larger public discussion about how water is being maintained throughout time, because water is a public resource," Acuña went on.

Financed by Chile's public resources sector CORFO, the project is, at its core, a resource for entire communities to use to work together in allocating water to all.

The technical side of hydro-data collection

The research group's technology uses two mathematical models - called WEAP and Modflow - to generate in-the-moment screenshots of water levels and movement.

UC Davis in California is where scientists have derived information for these operations to work.

Not only does technical knowledge from trial runs performed in the U.S. inform the model put forward by Acuña, how actors who participate in using the system interact with one another is drawn from expertise found in research in the states.

Now the challenge is to be able to ensure accessibility for the platform and its particular nuances in the context of Chile.

Acuña outlined the two crucial processes that the platform will go through before becoming fully operational.

First, the technical steps to create the water modeling system and connect data analysis processes to superficial and underground water systems must be executed. This is exactly where the team is at currently.

Next, it will extend its platform to organizations that can administer and oversee the real-time operations of the technology. This involves coordinating with the community and educating on how the platform operates - making it more democratic and accessible.

The right to water as a public resource

"Water should be a national resource for all, free for public use. This involves the participation of a lot of government institutions and exactly how that works in practice often creates a lot of challenges."

The importance of this project comes in its ability to connect people with the resources they have a right to. It also extends the responsibility for water sustainability to ecosystems of industries, individuals, communities and businesses.

Making sure that water is being used ethically and sustainably through active participation from those most impacted by decisions about water distribution is what Acuña's model hopes to provide.

Along with its critical nature, its ability to be replicated in other regions is key to its value for the agriculture industry.

"We have great teams of people working on hydro-informatics but we've always been second best to experts in California. They have provided us crucial knowledge of hydro-systems from a physical, biological and chemical standpoint. Our task is now is to connect the human component to this work. The political, economic and social aspects of maintaining water resources is critical," she explained.

*If you're interested in topics like this and want to know how water scarcity impacts diverse communities across the world, consider attending the **Agricultural Water Summit 2020**. The premier event will bring together experts with the shared goal of providing solutions, innovation and technology in the field to preserve and sustain water in the agriculture industry. For more information, [please click here](#).*